BOROUGH OF WIDNES.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE

YEAR 1919

ALSO THE

ANNUAL REPORT

OF THE

INSPECTOR OF NUISANCES.

WIDNES:
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BOROUGH OF WIDNES.

ANNUAL REPORT

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MEDICAL OFFICER OF HEALTH

1919

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.

GENTLEMEN,

I have the honour to present to you my Annual Report, which deals with the Vital Statistics and Sanitary Administration of the Borough of Widnes for the year 1919.

In accordance with the instructions of the Ministry of Health, a more complete report has been prepared.

The chief features of satisfaction are as follows:—

(1) A slightly reduced death rate.

(2) The lowest infantile mortality figure on record.

(3) A reduction in the zymotic death rate, including the death rate from diarrhœa.

(4) Fewer notifications of infectious disease, particularly of scarlet fever.

(5) An absence of enteric fever.

A few conversions of privies and ashpits were carried out during the year, and it is expected that the majority of the remaining privies will be converted during the year 1920.

The Maternity and Child Welfare work has been greatly extended during the year by the establishment of Welfare Centres.

In presenting this report, I wish to express my sincere thanks to the members of the Health Committee for the kindness they have shown to me, and for the attention and consideration which they have given to my suggestions.

I wish also to express my gratitude to the Heads of the various Departments for their valuable help and advice.

I must also acknowledge my appreciation of the efficient manner in which the members of the Staff have done their respective duties, and to Mr. Lowe, in particular, for his loyal assistance in carrying on the work of the Department.

I am, Gentlemen,

Your obedient servant,

A. JONES,

Medical Officer of Health.

SECTION I.

SUMMARY OF STATISTICS, 1919.

Area of Borough in Acres	3,401
Area of Borough in Acres (excluding covered by water) ...	3,039
Population at Census, 1911	31,544
Estimated Total Population, 1919	34,052
Estimated Civil Population, 1919	32,689
Density of Population (i.e., No. of Persons per Acre) ...	10·7
No. of Houses in the Borough on December 31st, 1919 ...	6,505
Average No. of Persons per House at Census, 1911 ...	5·16
Number of Births: Males, 451; Females, 436	887
Birth-rate per 1,000 of the Population	26·0
No. of Deaths: Males, 284; Females, 255	539
Death-rate per 1,000 of the Population	16·5
Excess of Births over Deaths	348
Number of Deaths of Infants (under the age of one year)	80
Infantile Mortality per 1,000 Births	90
Deaths from Influenza	88
Death-rate from Influenza per 1,000 of the population ...	2·7
Zymotic Death-rate	1·43
Death-rate from Phthisis	1·22
Death-rate from all forms of Tuberculosis	1·49
Gross rateable value of Borough, 1919	£189,295
A penny rate on the District Fund produced in 1919-20 ...	£630
A penny rate on the Borough Fund produced in 1919-20	£725

In 1919 the General District Rate was 4s. 4d., and the total Rates 10s. 8d. in the Pound.

NATURAL AND SOCIAL CONDITIONS OF THE DISTRICT.

GENERAL DESCRIPTION OF THE BOROUGH—

Widnes is a Municipal Borough situated on the north bank of the estuary of the River Mersey, and is twelve miles south-east of Liverpool. The Charter of Incorporation of the Borough was granted in 1892.

The town is about four miles in length from north to south and two and a half miles wide from east to west. The subsoil is clay, varying in depth from 6 to 23 feet, and overlying red sandstone. There is a gradual ascent from the south or river end to the north, the surface of the lowest street being 18.60 above O.D. and the level of the highest street 164.00 above O.D.

The area of the Borough is 3,401 acres, including 362 acres covered by water. The prevailing winds are south-west, which come from the sea through the Mersey Valley.

The annual rainfall in 1917 was 27, in 1918, 33.0, and in 1919, 27.0 inches.

There is much vacant and waste land in the Borough, practically destitute of grass, which gives the place an unsightly appearance. This land is useful as playing ground, and in allowing the free circulation of air, but it becomes a source of nuisance during windy weather owing to the dust, which is scattered along the streets. A fair amount of this land is in an area undesirable for house building.

The Borough is the capital of the chemical industry in England, the principal trade of the town being chemical manufacture carried on in large works belonging to the United Alkali Co., Ltd., and also in smaller chemical works. There are two large Copper Works, one Soap Works, also works for metal extraction and other kindred industries. These works lie principally at the south end of the town near the river, canal, and docks.

During recent years extensions to existing works and the modernisation of plant have been carried out by the United Alkali Co., Ltd. The new works built during the war period were:—The High Speed Steel Alloy, Ltd., in Ditton Road; the Asbestilite Works; and the Chemical Works of Peter Spence and Co., Ltd., in Farnworth. The establishment of the latter two works at Farnworth and the likelihood of further industrial development along the St. Helens Railway, will restrict the area for residential development to the North and North-western portions of the Borough.

The gross rateable value of the Borough is £189,295, and a rate of 1d. in the £ produces on the General District Fund £630, and on the Borough Fund £725.

The Borough is divided into six wards, the area and other particulars of which are set out in the tables in the report.

POPULATION—

The population of the Borough at the Census of 1911 was found to be 31,544, an increase in ten years of 2,964. The population returns since 1861 are given below:—

Year	Population	Inhabited houses	Average per house
1861	6,893	1,150	5·99
1871	14,359	2,519	5·66
1881	24 918	4,994	5·0
1891	30,011	5,121	5·86
1901	28,580	5,350	5·34
1911	31,544	6,102	5·16

During each of the past five years the Registrar-General has supplied an estimate of the population, and the vital statistics contained in this report are based on those figures. The population figures can only be regarded as approximate, consequently the rates per 1,000 of the population are not strictly accurate. Statistics become more unreliable as the time since the census lengthens, and of recent years the inaccuracies have been markedly accentuated owing to the fluctuations in the population caused by the war. The only rate that is strictly accurate is that of infantile mortality, as it is computed from definite data, viz., the number of births and the number of deaths under one year. This rate, apart from being accurate, is one of the most important indexes of the sanitary condition of the community.

The estimated total population for the year 1919 was 34,052, and this figure is used for calculating the birth rate. The estimated civil population was 32,689, and all death rates are calculated on this figure.

It is estimated that there are 8,000 Irish residents and 400 Poles in the Borough.

The population of Widnes is mainly of the working-class, but there are a number of residents who hold more highly-paid positions in the various works. Hence, although there are in the district many poor-class dwellings, there are also many of the medium and good-class, the last named being mostly in the Farnworth area.

As far as can be ascertained the public health is not influenced by any particular occupation. It has been alleged that a high rate of mortality is due to some extent to the irritating effects of chemical fumes. As a fact, however, the death rate from bronchitis and pneumonia is below the average of the urban districts in the county.

BIRTHS—

	Males	Females	Total
Number of Births registered in the Borough of Widnes	441	435	876
Number of Transferred Births inward	10	1	11
Total number of Births	451	436	887
Birth rate for year per 1,000 of total population (34,052)	—		26·0
Birth rate for England and Wales	—		18·5

The Birth Rate for the year was 26 per 1,000 of the population, as compared with 23.8 for the year 1918, 29.0 for the Decennium 1909-18, and the rate of 34.5 for the Decennium 1899-08.

The following table gives the number of births registered in the borough during each quarter of the year, and indicates the wards in which they occurred:—

WARD	QUARTERS.				M.	F.	Total.	No. of Births which were illegitimate	Birth-rate per 1000 estimated Population
	1st	2nd	3rd	4th					
Farnworth	26	20	32	43	58	63	121	2	17·6
Halton	28	48	26	41	83	60	143	6	25·3
Simms Cross ...	24	36	48	59	83	84	167	5	25·4
Victoria	36	40	50	61	96	91	187	9	30 0
Waterloo	30	22	39	54	64	81	145	10	30 0
West Bank... ...	22	25	29	37	57	56	113	8	29·3
Whole Borough ...	166	191	224	295	441	435	876	40	26 0

ILLEGITIMATE BIRTHS—

Forty illegitimate births were registered in the Borough, but, as eight of the transferable births were illegitimate, the total for the year is forty-eight, as compared with thirty-nine during 1918.

The percentage of births, which were illegitimate, during each of the past ten years is as follows:—

1910 ...	2.2 per cent.	1915 ...	1.6 per cent.
1911 ...	2.8 per cent.	1916 ...	1.6 per cent.
1912 ...	3.3 per cent.	1917 ...	2.5 per cent.
1913 ...	2.0 per cent.	1918 ...	4·6 per cent.
1914 ...	2.8 per cent.	1919 ...	5.4 per cent.

NOTIFICATION OF BIRTHS ACT, 1907.

This Act came into operation in the Borough on the 1st day of October, 1913. During the year 1919 the number of live births notified was 919, and the number of still-births 23. All the notifications were received from midwives. A weekly list of notifications is supplied to the Registrar, and the Birth returns received from him are carefully scrutinised to see that the above Act is complied with.

DEATHS—

	Males	Females	Total
Number of deaths registered in the Borough during 1919	239	231	470
Number of Transferred deaths—Inward.....	53	26	79
,, ,, ,, ,, Outward.....	8	2	10
Nett deaths belonging to Widnes	284	255	539
Death rate per 1,000 of population, 1919			16·5
Death rate per 1,000 of population, 1918.....			19·0
Death rate per 1,000 of population, 1909-1918 ..			17·3
Certified deaths			529
Uncertified deaths..... .			10
Death rate for England and Wales per 1000 popn.			13·8

INQUESTS—

Inquests were held in the following Cases, as tabulated :—

Burns	3
Killed (Motor Bus)	2
,, (on Railway)	2
Injured by Falling	1
Suicide, Cut Throat	1
,, Hanging	2
Fractured Skull (Motor Accident)	1
Found dead in bed	1
,, Drowned	1
Suffocated	1
Heart Disease	1
Inflammation of Stomach	1
Pneumonia	1
Total	18

DEATHS CERTIFIED BY CORONER WITHOUT INQUEST—

Convulsions	3
Heart Failure	3
Apoplexy	1
Pneumonia	2
Influenza	1
Total	10

The following table shows the place of death of the Widnes residents who died outside the Borough:—

	Males.	Females.	Total.
Whiston Union Workhouse and Infirmary	42	17	.. 59
Liverpool Workhouse	1	1	.. 2
Cheshire County Asylum, Upton ..	1	—	.. 1
Infirmary, Warrington	2	1	.. 3
County Lunatic Asylum, St. Helens ..	1	—	.. 1
Royal Infirmary, Liverpool	1	2	.. 3
Stanley Hospital, Liverpool	1	—	.. 1
Liverpool Women's Hospital	—	2	.. 2
Garston Hospital	1	—	.. 1
Other Institutions	3	3	.. 6
Totals ..	53	26	79

Table showing the number of deaths in each ward in relation to season:—

WARD	QUARTERS				M.	F.	Total	Death-rate per 1000 of the Population
	1st	2nd	3rd	4th				
Farnworth	49	19	10	14	52	40	92	13·8
Halton	46	16	15	13	45	45	90	16·6
Simm's Cross	52	14	21	15	50	52	102	16·2
Victoria	47	6	17	19	58	41	99	16·6
Waterloo	46	23	16	25	58	52	110	23·7
West Bank...	11	8	12	15	21	25	46	12·4
Whole Borough	251	96	91	101	284	255	539	16·5

CAUSES OF, AND AGES AT, DEATH DURING YEAR 1919—

CAUSES OF DEATH	All Ages.	Under 1 Year	1 and under 2.	2 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and under 65.	65 and upwards.
All causes—Certified ..	529	78	32	41	26	30	85	135	102
„ Uncertified ..	10	2	—	—	1	—	3	3	1
Enteric Fever	1	—	—	—	—	—	—	1	—
Measles	—	—	—	—	—	—	—	—	—
Scarlet Fever	—	—	—	—	—	—	—	—	—
Whooping-cough	33	5	11	14	3	—	—	—	—
Diphtheria and Croup ..	6	—	—	4	2	—	—	—	—
Influenza	88	—	1	3	2	9	32	29	12
Phthisis (Pulmonary Tuberculosis)	40	—	—	—	6	7	13	12	2
Tuberculous Meningitis ..	1	—	—	—	1	—	—	—	—
Other Tuberculous Diseases	8	—	2	1	1	3	1	—	—
Cancer, malignant disease ..	24	—	—	—	—	1	1	15	7
Rheumatic Fever	2	—	—	—	—	1	—	1	—
Meningitis	5	1	1	1	1	—	1	—	—
Organic Heart Disease ..	21	—	—	—	—	—	2	13	6
Bronchitis	48	6	4	—	—	1	4	17	16
Pneumonia (all forms) ..	57	8	7	11	5	3	11	10	2
Other diseases of Respiratory Organs	18	4	1	2	1	1	—	6	3
Diarrhœa and Enteritis ..	6	3	3	—	—	—	—	—	—
Appendicitis and Typhlitis ..	2	—	—	—	1	1	—	—	—
Cirrhosis of Liver	—	—	—	—	—	—	—	—	—
Nephritis and Bright's Disease	3	—	—	—	1	—	—	2	—
Puerperal Fever	2	—	—	—	—	1	1	—	—
Other Accidents and Diseases of Pregnancy and Parturition	4	—	—	—	—	1	3	—	—
Congenital Debility and Malformation, including Premature Birth	34	34	—	—	—	—	—	—	—
Violent Deaths, excluding Suicide	12	1	—	1	2	—	3	3	2
Suicides	3	—	—	—	—	—	1	2	—
Other Defined Diseases ..	115	18	2	3	1	1	13	25	52
Diseases ill-defined or unknown	6	—	—	1	—	—	2	2	1
TOTALS ..	539	80	32	41	27	30	88	138	103

VITAL STATISTICS OF WHOLE DISTRICT DURING 1919 AND PREVIOUS YEARS—

Year	Population estimated to middle of each Year		Births			Total Deaths registered in the District		Transferable Deaths		Nett Deaths belonging to the District			
			Uncorrected Number	Nett				of Non-residents registered in the District	of Residents not registered in the District	Under 1 Year of Age		At all Ages	
	Total	Civil		Number	Rate	Number	Rate			Number	Rate per 1000 Nett Births	Number	Rate
1914	32572	32572	986	993	30·4	487	14·9	5	86	127	127	568	17·4
1915	32700	30911	927	932	28·5	536	17 3	—	96	128	138	632	20 4
1916	32987	30318	900	900	27·2	489	16·1	3	79	99	110	565	18·6
1917	34966	31368	844	849	24 2	417	13 3	6	92	88	104	503	16·0
1918	35479	31500	851	846	23·8	517	16·4	13	96	101	119	600	19 0
1919	**34052**	**32689**	**876**	**887**	**26·0**	**470**	**14·3**	**10**	**79**	**80**	**90**	**539**	**16·5**

INFANTILE MORTALITY—

The number of deaths during the year of children under one year of age was 80, which represents an infantile mortality rate of 90 per 1,000 births. This is the lowest infant mortality rate recorded in the Borough, and is a very satisfactory feature. The following table indicates the infantile mortality during each of the years since 1894:—

Year.	No. of Deaths under 1 year	Infantile Mortality. per 1,000 births	Percentage of Deaths under 1 year to total deaths
1894	158	140	29.5
1895	240	208	32.7
1896	150	152	31.6
1897	208	196	36.5
1898	200	184	37.1
1899	218	204	35
1900	206	206	32
1901	179	189	34.7
1902	136	135	36.6
1903	143	143	31.9
1904	173	171	33.3
1905	157	157	31.6
1906	187	195	32.5
1907	147	143	26.1
1908	143	137	25.7
1909	142	141	27.4
1910	119	121	26.3
1911	170	168	29.4
1912	114	117	20.8
1913	136	132	23.6
1914	127	127	22.3
1915	128	138	20.1
1916	99	110	17.5
1917	88	104	17.4
1918	101	119	16.8

The following table summarises the figures for the past 20 years, and compares them with those of 1919:—

	No. of Deaths under 1 year	Infantile Mortality per 1000 Births	Percentage of deaths under 1 year to total deaths.
Average for the decennium 1899-1908	169	168	31·0
Average for the decennium 1909-1918	122	128	22·0
1919	**80**	**90**	**14·8**

It will be seen that there has been a steady decline in the infantile mortality figure, reaching its lowest during the year under review. This decline is largely attributable to two factors, viz.:—

(*a*) The improved sanitary condition of the Borough.

(*b*) The systematic health visitations and the work performed at the Welfare Centre.

The following table indicates the deaths of infants at the various age periods:—

Year	Under 1 Week	Under 1 Month	Under 3 Months	3—6 Months	6—9 Months	9—12 Months	Total Deaths under 1 Year
1909	23	37	71	34	22	15	142
1910	21	35	56	32	16	15	119
1911	19	39	68	39	40	23	170
1912	16	36	54	21	22	17	114
1913	22	35	63	33	22	18	136
1914	19	41	63	22	19	23	127
1915	21	35	61	16	28	23	128
19 6	17	34	51	16	18	14	99
1917	17	34	43	16	15	14	88
1918	27	37	55	13	19	14	101
Total	203	363	585	242	221	176	1224
Per cent.	16·6	29·6	48·0	20 0	18·0	14 0	—
Per cent. **1919**	**27·5**	**50·0**	**61·3**	**18·7**	**10·0**	**10·0**	—

The death rate of infants per 1,000 births at the various age groups is as follows:—

Year	Under 1 Week	Under 1 Month	Under 3 Months	3—6 Months	6—9 Months	9—12 Months	Total under 1 Year
1909	23·0	37·0	70·0	34·0	22·0	15·0	141
1910	21.3	35·6	57·0	32·5	16·3	15·2	121
1911	18 7	38·5	67·2	38·5	39·5	22·7	168
1912	16.5	37·1	55·7	21·7	22·7	17·5	117
1913	21·3	34·0	61·1	32·0	21·3	17 4	132
1914	19·1	42·3	63·4	22·1	19·1	23·1	127
1915	22·6	37·7	65·7	17·2	30·2	23·7	138
1916	18·8	37·7	56·6	17·7	20·0	16 0	110
1917	20·0	40·5	50 6	18·8	17·6	16·4	104
1918	31·7	43·5	64 7	15·3	22·3	16·4	119
Average	21·3	38·3	61.2	24 9	23·1	18·3	128
1919	**24·8**	**45·0**	**55·2**	**17·0**	**9·0**	**9·0**	**90**

INFANTILE MORTALITY—

The causes of deaths of infants during 1919 are recorded in the following table:—

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 4 Weeks.	4 Weeks and under 3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total Deaths under 1 Year.
All causes, Certified	21	6	4	7	38	9	15	8	8	78
,, Uncertified	1	1	...	...	2	...	...	...	...	2
Whooping Cough	...	...	...	...	...	...	3	...	2	5
Meningitis (*not Tuberculous*	...	...	...	...	...	...	1	...	...	1
Convulsions	2	2	...	1	5	...	4	...	1	10
Bronchitis	1	1	...	...	2	1	1	...	2	6
Pneumonia (all forms)	...	...	...	...	...	...	2	5	1	8
Other Respiratory Diseases	...	...	1	...	1	...	1	...	2	4
Enteritis and Diarrhœa	...	...	...	...	...	3	...	...	...	3
Gastritis	...	...	...	1	1	3	2	2	...	8
Congenital Malformations	2	1	...	...	3	...	...	...	...	3
Premature Birth	11	...	2	...	13	1	...	...	...	14
Atrophy, Debility, & Marasmus	6	3	1	5	15	1	1	...	...	17
Other causes	...	...	...	...	...	...	...	1	...	1
TOTALS	22	7	4	7	40	9	15	8	8	80

Nett Births in the year { legitimate 839. / illegitimate 48.

Nett Deaths in the year { legitimate infants 76. / illegitimate infants 4.

The chief causes of death during each year of the past 10 years are given in the following table:—

CAUSES OF DEATH	YEAR										Total	Rate per 1,000 births	Percentage of Total Deaths of Infants
	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919			
Measles & Whooping Cough	2	3	10	11	13	10	5	9	8	5	76	8·0	6·2
Tuberculous Meningitis ...	—	—	1	—	1	—	—	—	—	—	2	0·2	0·1
Abdominal Tuberculosis ...	2	5	—	2	—	—	—	—	—	—	9	0·9	0·8
Other Tuberculous Diseases	—	2	—	—	—	—	—	3	—	—	5	0·5	0·43
Meningitis	1	9	8	2	3	3	2	1	1	1	31	3 2	2 6
Convulsions	3	12	9	15	13	2	5	2	7	10	78	8 2	6·7
Bronchitis and Pneumonia	20	17	20	22	21	24	12	17	13	14	180	19·0	15·5
Diarrhœa and Enteritis ...	34	78	16	38	18	15	17	8	10	3	237	25·0	20 4
Syphilis	—	1	1	2	1	1	1	—	—	—	7	0·7	0·6
Injury at Birth	3	—	1	—	—	—	1	—	—	—	5	0 5	0·43
Congenital Malformation Premature Birth & Debility etc.	46	35	45	36	45	44	38	33	35	34	391	41 1	33 6

Since the infantile mortality figure is perhaps the best index of combined social and sanitary progress, it will serve a useful purpose if the subject is considered in detail.

It will have been observed that 20 years ago the infant mortality was over 200 per 1,000 births whereas during the year 1919 it was only 90 per 1,000 births. This improvement is not a reason for contentment, for a large amount of avoidable disability and mortality continues. The statement is made rather as an encouragement and incitement to redoubled effort. The greater opportunities that have been afforded during the year for studying the subject of infant care have convinced one more than ever that a vast amount of the mortality comes within the range of preventability.

We learn from the various tables that the infant mortality in Widnes was, up to 1911—the year when the conversion of privies was commenced—above all, the problem of summer diarrhœa, and that since that year there has been a steady decline in the mortality from intestinal diseases. We also learn that the efforts which have been made to reduce infantile mortality have only been successful as regards the later months of the first year of life.

In the table indicating the deaths at the various age periods it will be seen that during 1919 27 per cent. of the deaths occurred under one week, and 50 per cent. under one month. If to these we add 39 still-births, which were notified, we realise what a large number of our infants die from causes affecting them before birth. Precisely what these ante-natal causes are it is difficult to say. Venereal disease is undoubtedly one of the main causes, *i.e.*, two expectant mothers who attended the centre during the year gave a history of eight pregnancies without a child surviving.

In order to reduce the mortality from ante-natal causes it will be necessary to establish an Ante-Natal Clinic in the Borough. This is difficult work to develop, and its success will depend very largely on the co-operation of midwives. One feels confident, however, that the midwives will welcome such a clinic, especially as it would be conducted on the lines laid down by the Central Midwives' Board. The midwife must be given her proper status and she must be regarded as primarily the person in charge of her pregnant patients. The clinic with its gynaecological specialist will be merely the higher authority for her to send her difficult cases to, and the treatment recommended will be carried out by her.

In addition to ante-natal causes, a certain proportion of the deaths which occur in the early days of life are the direct result of the accidents and complications of labour. The provision of a Maternity Home will, therefore, be one of the developments in the Maternity and Child Welfare scheme. Such an institution is required not only for abnormal cases but for normal ones which cannot be properly nursed in their own homes. Owing to the house shortage, there is no doubt that many confinements take place under very adverse circumstances, and there is pressing need for institutional

accommodation for such lying-in cases. It is being considered how far existing buildings belonging to the Corporation can be utilised temporarily for such a purpose.

Concerning the post-natal causes of infant mortality, it can be definitely stated that the physical development of the child is essentially the product of three factors, namely:—

1. Inheritance.
2. Environment.
3. Food.

Since we have no control over the first factor no good purpose would be served in discussing it.

The second factor is to a large extent under our control. The following table, which gives the infantile mortality per 1,000 births in the Wards of the Borough, illustrates the effects of poor housing accommodation, etc., on the infantile mortality:—

Year.	Farnw'th.	Halton.	Simm's Cross.	Victoria.	W'terloo.	West Bank.	Total.
1909	112	170	160	153	147	97	141
1910	66	79	145	158	168	112	121
1911	151	166	146	214	193	113	168
1912	108	34	132	98	151	145	117
1913	98	146	154	101	150	144	132
1914	68	126	158	140	163	102	127
1915	87	63	136	104	234	214	138
1916	66	99	159	125	69	160	110
1917	105	83	83	73	189	99	104
1918	117	90	159	103	95	159	119
Average 1909-18	98	106	143	127	156	134	128
1919	**49**	**111**	**108**	**75**	**123**	**70**	**90**

There nas been a marked improvement in the sanitary condition of the Borough since the year 1911, and the reduction in infantile mortality is in no small measure due to this. The pressing need is, as elsewhere, the carrying out of a housing and re-housing scheme. It is a matter of regret that we possess such a large proportion of small houses, so many congested areas, and such a minority of houses containing baths, food stores, etc. In the new housing scheme, not only will the individual houses contain the aforesaid requirements, but the environment will be as it is in the residential part of the Borough, where the mortality is low.

The question of feeding is of supreme importance. In no other field, and at no other time, does *prevention* give such results as in the conditions of nutrition in infancy. A large part of the immense mortality of the first year is traceable directly to the disorders of nutrition. The importance of correct ideas regarding this subject

can hardly be over-estimated. The problem is not simply to save life during the perilous first year, but to adopt those means which shall tend to healthy growth and normal development. The child must be fed so as to avoid not only the immediate dangers of indigestion, diarrhœa, etc., but the more remote ones of rickets, general malnutrition, and tuberculosis.

One of the difficulties has always been that temporary success may mean ultimate failure; if the injurious effects of improper feeding were immediately manifest there would be much less of it than exists at the present time. Many things are valuable as temporary foods which when used permanently are injurious. No better illustration of this is seen than in the too exclusive use of the starchy foods. Infants fed upon many of the proprietory foods often grow very fat, and for the time being appear to be properly nourished. The effect of the absence from the diet of some of the elements which are of vital importance may not be evidenced for months. The physiological laws regarding the requirements of the growing child cannot be ignored without serious consequences which will sooner or later be evident. Correct ideas in infant feeding are based upon a thorough knowledge of these laws, and accurate understanding of the fundamental principles is essential to success. The vast majority of failure may be ascribed to ignorance or disregard of them and it is largely to combat the ignorance which prevails on this important subject that we need Infant Welfare Centres.

An account of the work performed at the Centres will be found later in the report. There can be no doubt that the educative work which is being done in this direction is having its effect in lowering the death rate of infants.

It is desirable to emphasise that the same factors which produce a high infantile mortality adversely affect the surviving children, and cause various disabilities. The methods, therefore, that are adopted to diminish infant mortality will at the same time improve the health of older children, and reduce to a considerable extent the present degree of physical unfitness.

The following table compares the infant mortality of Widnes with those of Lancashire towns of similar size:—

	Infantile Mortality.
Ashton-under-Lyne	119.8
Bacup	101
Chadderton	126
Chorley	92
Colne	121
Darwen	115
Heywood	81
Hindley	99
Middleton	76
Swinton	98
Waterloo	73
WIDNES	90

DIARRHŒA AND ENTERITIS—

The number of deaths under 2 years of age from these diseases during the year was 6, as compared with 14 in 1918. The deaths during 1919 were distributed throughout the year as follows:—

September ..... 2 October ..... 2 November 2

The wards in which the deaths occurred are as follows:—

Farnworth	0	Victoria	0
Halton	0	Waterloo	2
Simm's Cross ...	2	West Bank ...	2

The following table compares the death-rate from Diarrhœa under 2 years of age during 1919 with previous years:—

Year.	No. of Deaths.	Death-rate per 1,000 births.
1909 ...	48 ...	48·
1910 ...	49 ...	50·
1911 ...	104 ...	102·
1912 ...	21 ...	21·
1913 ...	55 ...	53·
1914 ...	27 ...	27·
1915 ...	21 ...	22·
1916 ...	25 ...	27·
1917 ...	12 ...	14
1918 ...	14 ...	16·
Average ...	37·6 ...	39·
1919 ...	**6·0** ...	**6·7**

The effect of the conversions on the health of the community are very striking, *i.e.*, the incidence of enteric fever has been reduced to practically nothing, and the number of deaths under 2 years of age from diarrhœa has fallen from 104 in 1911 to 6 in 1919

TABLE SHOWING NUMBER OF DEATHS FROM THE PRINCIPLE ZYMOTIC DISEASES FOR 1919 AND THE PRECEDING TEN YEARS.

DISEASE.	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	Average of 10 years 1909-18
Small-Pox	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever ...	5	7	1	5	7	2	1	2	6	...	...	3·6
Diphtheria	1	1	3	9	6	3	6	6	6	3	6	4·4
Measles	16	6	2	25	23	22	11	21	4	26	...	15·6
Whooping Cough ...	23	1	6	19	18	15	30	8	14	8	33	14·2
Enteric Fever ...	2	11	16	2	2	...	3	...	1	...	1	3·7
Typhus Fever ...	...	...	...	...	...	...	...	...	...	...	...	—
Diarrhoea & Enteritis under 2 years	48	49	104	21	55	27	21	25	12	14	6	37·6
TOTAL ...	95	75	132	81	111	69	72	62	43	51	46	79·1
Rate per 1000 of the Population ...	**3·1**	**2·4**	**4·1**	**2·5**	**3·4**	**2·1**	**2·3**	**2·0**	**1·4**	**1·6**	**1·4**	**2·56**

ZYMOTIC DISEASES—

The number of deaths from these diseases during the year was 46, the Zymotic death-rate for the year being 1·4 per 1,000 of the population.

VITAL STATISTICS—WARDS IN THE BOROUGH—

	Farnworth	Halton	Simm's Cross	Victoria	Waterloo	West Bank	Whole Borough
Population	6650	5420	6300	6000	4634	3685	32689
No. of Houses	1469	1101	1222	1053	874	786	6505
Density of Population	5·7	9·0	25·5	23·6	9·4	12·4	10·7
Birth-rate per 1000	17·6	25·3	25·4	30·0	30·0	29·3	26·0
Death-rate per 1000	13·8	16·6	16·2	16·6	23·7	12·4	16·5
Infantile Death-rate per 1000 Births ...	49	111	108	75	123	70	90
Zymotic Death-rate per 1,000	0·1	1·4	1·4	1·3	3·4	1·0	1·4
Death-rate from Diarrhœa per 1000 ...	0·0	0·0	0·3	0·0	0·4	0·5	0·2
Death-rate from Phthisis per 1000 ...	0·6	1·1	0·9	1·8	1·7	1·3	1·22
Total Deaths	92	90	102	99	110	46	539
Total Births	121	143	167	187	145	113	887

The following table summarises the Vital Statistics of the Borough:—

	Birth Rate	Death Rate	Epidemic Death Rate	Phthisis Death Rate	Infant Mortality per 1,000 Births
1919	26·0	16·0	1·43	1 22	90
1918	23 8	19.0	1·57	1·26	118
Mean of 10 years— 1909—1918 ...	29·0	17·3	2·56	1·14	128
Increase or decrease in 1909 on	+2·2	−2·5	−0·14	−0·04	−28·0
Previous year— Ten years' average	−3·0	−0·8	−1·13	+0·08	−38·6

MORTALITY FROM ALL CAUSES—

The following table shows the distribution of deaths in the various Wards of the Borough.

Ward	Under 1	1—2	2—5	5—15	15—25	25—45	45—65	over 65	Total
Farnworth...	6	2	2	7	6	21	19	29	92
Halton ...	16	6	12	4	2	17	22	11	90
Simm's Cross	18	6	11	2	7	17	23	18	102
Victoria ...	14	10	6	4	7	17	26	15	99
Waterloo ...	18	6	8	6	4	11	36	18	110
West Bank	8	2	2	4	4	5	9	12	46
TOTALS ...	**80**	**32**	**41**	**27**	**30**	**88**	**138**	**103**	**539**

SECTION II.

SANITARY CIRCUMSTANCES OF THE DISTRICT.

WATER SUPPLY—

The water supply of the Borough is obtained by pumping from deep wells in the sandstone. The Borough possesses wells at Stockswell, Netherley and Belle Vale, but only the two former are used at present. The water is periodically analysed, and has always been found good in quality and practically free from bacteria. This is very satisfactory, especially when it is remembered that the water undergoes no treatment or filtration of any kind. There are no wells for domestic supply and every house in the Borough has a good and constant water supply. Boring operations are being continued at Belle Vale, but it will be some time before this Pumping Station is completed.

The latest analysis of the water is appended:—

	Stocks Well.		Netherley.	
	In parts per 100,000		In parts per 100,000	
	1918	1913	1918	1913
Total solid matter in solution ...	20 200	16·400	19.8'0	15·200
Oxygen absorbed from Permanganate—				
In 15 minutes	·002	·000	004	000
In 3 hours	·006	·001	·004	000
Ammonia	·001	·000	003	·001
"Albuminoid Ammonia" ...	·010	000	016	·000
Nitrogen as Nitrates	·21	·196	·32	·260
Combined Chlorine	1·900	1·900	2 300	2·200
Temporary Hardness	0·9	2·10	1·80	0·30
Permanent Hardness	10·2	8·60	6·70	7·40
Total Hardness	11·1	10 70	8·50	7·70

DRAINAGE AND SEWERAGE—

The Borough is very efficiently drained and sewered, the sewage being taken by three main outfall sewers into the Estuary of the Mersey. In addition there are various outfalls for the drainage from the chemical works so that very little chemical matter finds its way into the main sewers. The main sewers are provided with automatic

flushing syphons which flush three times during the 24 hours. A large tank wagon, which contains 1,800 gallons of water, is also used for flushing purposes. Sewer cleaning is carried out by winches with chains and dredge buckets. The sewers are well venilated by means of numerous shafts, the manholes in the streets being air-tight.

The sewers are in good order and appear to be adequate for the needs of the town except in isolated areas, viz., Lunt's Heath, Upton, Moorfield Road, and groups of property in Farnworth Street. Representations are being made to the Highway Committee to provide a new sewer for the property in the neighbourhood of Farnworth Street, but to urge the laying of an efficient sewer for the other areas mentioned would at the present time be unreasonable. Those districts are definitely rural in chararter, and to provide a complete system of sewers would be a difficult and costly undertaking. Those districts will require to be dealt with at some time, but it is submitted that there are many matters of greater urgency confronting the Local Authority.

CLOSET ACCOMMODATION—

The types of closet accommodation existing in the Borough are:—

(1) Privy Midden,
(2) Waste-Water Closet, and
(3) Fresh-Water Closet.

Having carefully analysed the statistics relating to the Borough, it appeared to the Health Committee that the yearly prevalence of Enteric Fever and the large annual death-rate from Diarrhœa especially among infants, were largely influenced by the existence of the privy middens. It was, therefore, decided in the year 1911 to convert these into fresh-water closets, and the following table shows the number of conversions which have been carried out during each of the years since 1911:—

Year.	F'nworth.	Halton.	Cross. Simms	Vict'ria.	W'terloo.	Bank. West	Total.
1911	70	18	116	26	7	18	255
1912	24	47	139	117	61	99	487
1913	15	95	35	172	182	308	807
1914	46	177	426	486	336	—	1471
1915	2	64	191	3	1	—	261
1916	19	11	18	4	—	—	52
1917	—	—	—	—	—	—	—
1918	10	2	—	6	2	—	20
1919	**13**	**7**	—	—	—	—	**20**
Total	199	421	925	814	589	425	3373

It will be seen from the table that an increasing number of conversions was carried out each year until the outbreak of war. The effects of the conversions have already been felt, *e.g.*, there was not a single case of Enteric Fever during the year, and there was a marked reduction in the death rate from Diarrhœa.

During the latter part of the war period this work was considerably curtailed, but it is now being proceeded with. It will not be possible to convert the whole of the privy middens that exist for the reasons mentioned in the previous chapter, but the urban portions of the district will be dealt with as expeditiously as possible. At the moment there is difficulty in securing the necessary labour and materials, but it is hoped that this is only temporary, and that considerable progress will be made during the year 1920.

The following table indicates as accurately as possible the number of the respective conveniences existing in the Borough at the end of 1919:—

	Farnworth	Halton	Simm's Cross	Vict'ria	Waterloo	West Bank	Total
Privies	223	308	12	6	1	—	550
Fresh Water Closets... ...	719	655	1008	949	656	474	4461
Waste Water Closets... ...	527	138	202	98	217	312	1494

It is a matter of regret that so many waste water closets exist in the Borough. They cannot be regarded as sanitary and are a frequent source of nuisance; indeed, a large proportion of the nuisances ~~that~~ are due to choked waste water closets. Two of this type of convenience were converted during the year into fresh water closets because of a recurring nuisance, and one has every reason to believe that the owners would substitute fresh water closets for waste water closets if the Local Authority contributed to the cost.

REFUSE REMOVAL—

This work is carried out by the Council, the removal of household refuse being supervised by the Health Committee, the removal of trade and street refuse by the Highway Committee.

The number of the respective receptacles for household refuse at the end of 1919 is approximately as follows:—

	Farnworth	Halton	Simm's Cross	Vc't'ria	Waterloo	West Bank	Total
Ashpits in association with privies...	223	308	12	6	1	—	550
Dry Ashpits ...	215	60	12	13	--	--	300
Bins	1031	733	1198	1034	873	786	5655

It will be seen from the above table that there is a large number of bins in use in the district. As a result of the conversion of privies and ashpits the increase in the number of bins since the year 1911 is 4,722.

The dry ashpits which were converted into bins were situated in the various Wards as follows:—

Year	Farnworth	Halton	Simms Cross	Victoria	Waterloo	West Bank	Total
1913	—	2	17	25	118	294	456
1914	167	52	154	73	36	—	482
1915	128	65	36	32	—	—	261
Total	295	119	207	130	154	294	1199

The removal of refuse has not been carried out as satisfactorily as is desirable. This has been due to the following causes:—

1. *Increased amount of Refuse.—It* has been the experience of most authorities that there has been a larger quantity of household refuse to be removed than in former years. The poor quality of the fuel supplies is to some extent the causal agency, but there is no doubt that a large number of householders do not burn their refuse to the fullest extent. There is an appreciable difference in the amount of refuse collected per house in different parts of the Borough which clearly shows what individual effort can do. Much of the refuse which is now being collected by the Authority could be destroyed by householders themselves, and one would again appeal to the public to place in the bins only such material as cannot be burned on the household fire.

2. *Absence of Bins and Bins in a worn-out condition.*—This enormously delayed the collection of refuse, inasmuch as the dustmen were compelled to place the refuse accumulated in the yards into a special Bin which they carried about with them. It was difficult during the war to secure new Bins, and it was largely owing to this fact that numbers of houses were without Bins at the beginning of the year. Later on it was possible to secure Bins, so 364 notices were served, under Section 36 of the Public Health Act, 1875, requiring the renewal of Dustbins during the year.

When every house is in possession of a suitable Bin it will be possible to remove refuse more frequently than at present.

3. *Inadequate Transport.*—Six carts were employed daily in refuse removal—a larger number than utilised in former years—but in spite of this it has been difficult to cope with the work. Having regard to the scattered nature of the Borough, thereby causing long distance haulage, one is of opinion that mechanical transport is necessary for the removal of refuse from the outlying parts of the district. The question of the suitability of either petrol or electrically-driven vehicles for this purpose is now being closely investigated.

REFUSE DISPOSAL—

All the nightsoil is removed to farmers' land. This disposal of dry refuse is at present being effected by tipping or incineration at the Destructor. The refuse from Farnworth North is being used to fill in a deep pit in the Lunt's Heath district; that from Farnworth South, Halton and Simms' Cross Wards is tipped in Lockett's Quarry; and that from the remaining three Wards is conveyed to the Destructor.

A three-cell, Stirling type, Refuse Destructor was erected in 1915 and has been working continuously since that year. The capacity is 16 tons per 8 hours, but owing to several causes it has not been possible to incinerate this amount. Owing to the fact that Lockett's Quarry will only be available for tipping purposes for a comparatively short period, it will be necessary for early consideration to be given to the adoption of some additional method of refuse disposal. Experiments are being conducted in several towns with a view to ascertaining whether it is possible to deal with household refuse by screening alone and thus avoid the expense of destruction. These experiments are being closely watched, and recommendations will no doubt be made as to the best type of plant to be erected on the Destructor site for augmenting the existing arrangements for refuse disposal.

STREETS AND SCAVENGING—

The main road in the Borough is paved with granite sets; the secondary roads and made streets with tar macadam or macadam which is tar sprayed. A tar macadam plant is associated with the Refuse Destructor, and the tar macadam used on roads is obtained from this source. The majority of the unmade streets are in Farnworth South—this being the part of the district where house-building was being carried on immediately prior to the war. The making of these streets is not strictly urgent, but there should be no further delay in making the back passages in that and in other districts where it is required. This is a matter which calls for early action, and one is hopeful that the Highway Committee will deal with it.

The scavenging of streets and back passages is carried out by the Corporation workmen, under the supervision of the Highway Committee.

One would appeal to the inhabitants to assist the Authority in preserving a clean condition of streets and passages by ceasing to litter the streets with paper, and the passages with domestic refuse.

SANITARY INSPECTION OF DISTRICT—

A detailed account of the notices served requiring the abatement of nuisances is included in the report of the Inspector of Nuisances. It will be noted that the abatement of nuisances was secured without having to resort to prosecution.

The chief matter of sanitary environment which requires attention is the paving of yards. Many of the yards in the older parts of the town are paved with cobbles or other unsuitable material. The Local Authority possesses a bye-law under which they can require yards to be paved with an impervious material. Owners were notified of this when the conversions were being done, but only five received attention. In order to further promote cleanliness the satisfactory paving of yards should be insisted on.

COMMON LODGING-HOUSES AND HOUSES LET-IN-LODGINGS—

There are eight common lodging-houses and four houses let-in-lodgings in the Borough. They are regularly inspected, and there is no fault to be found with the way in which they are conducted.

SCHOOLS.—

The sanitary condition of the Schools provided by the Local Authority is satisfactory.

As the School Medical Officer is also the M.O.H. there is complete co-ordination between the respective authorities with regard to preventing the spread of infectious diseases in Schools. The head teachers and attendance officers are promptly notified of all cases of infectious disease that occur. School closure was resorted to for two weeks in March owing to the prevalence of Influenza and Whooping Cough.

SECTION III.

(*a*) *MILK SUPPLY*—

There are eleven cowsheds on the Register, and they are in actual use.

The number of premises registered as Milkshops is 51. These are regularly inspected, and the owners must conform to the Dairies, Cowsheds, and Milkshops Regulations which have been adopted by the Borough. The covering of milk vessels has been insisted on ; the type of cover usually adopted has been one made of butter muslin, with lead weights or fixed on a wooden rim to keep it in postion.

Ten cowkeepers outside the Borough supply milk to dealers residing in the Borough, or sell it retail. The bulk of the milk supply is obtained from these cowkeepers.

The Local Authority has special powers under the local Act of 1908 to deal with tuberculosis milk. Two cows were found to be suffering from tuberculosis and were destroyed.

MILK (MOTHERS AND CHILDREN) ORDER, 1918—

Dried Milk was supplied at the Welfare Centres to mothers and young children under this Order. The amount supplied gratuitously will be found in the Section dealing with Maternity and Child Welfare.

(*b*) *OTHER FOODS*—

Slaughterhouses.—There are six slaughterhouses on the Register, but only a small amount of slaughtering is done. Most of the meat sold is brought into the town from markets outside, a great part being chilled or frozen meat. The slaughterhouses and shops are regularly inspected.

The amount of unsound meat and other foods discovered during the year will be found in the report of the Inspector of Nuisances.

(*c*) *SALE OF FOOD AND DRUGS ACT*—

Samples of Food and Drugs are taken by the County Police, and prosecutions are instituted when necessary. It will be seen from the detailed report that the majority of the samples were genuine.

In am indebted to Mr. Superintendent Cleal for the following table, showing the samples taken during the year and the results:—

Date	Nature of Sample taken	Result of Analysis
21st January, 1919	4 Samples of Milk.	Genuine.
do.	White Pepper	Do.
do.	Shin Beef	Do.
do.	Sirloin	Do.
do.	Shoulder Steak	Do.
do.	Butter	Do.
do.	Milk	Do.
do.	Vinegar	Do.
do.	Milk	Milk fat 4.10%. Other solids 8.94% contained 39 parts volume of sediment per 100,000.
do.	Milk	Milk fat 3.80% other solids 9.03%. contained 37 parts by volume of sediment per 100,000 coal dust.
do.	Beer	Genuine
do.	Stout	Gravity 1029.8%, and contained 5.6%.
do.	Stout	Original gravity 1016.1% and contained 2.33% proof spirit.
5th February, 1919	Shell Stout	Original gravity 1016.9%, proof spirit 2.09%.
do.	Guinness Stout	Original gravity 1047.4%, proof spirit 7.74%.
19th March, 1919	Margarine	Genuine.
do.	Lard	do.
do.	4 Samples of Milk	do.
do.	1 Sample of Milk	10 parts by volume of cowdung per 100,000.—To pay costs.
do.	1 lb. Self-Raising Flour	Genuine.
do.	2 ozs. White Pepper	Passable.
do.	2 ozs. White Pepper	Genuine.
do.	¼ lb. Margarine	do.
do.	¼ lb. Coffee	do.

Date	Nature of Sample taken	Result of Analysis
19th March, 1919	Pkt. Self-Raising Flour	Genuine.
do.	Pkt. Egg Flour	do.
do.	Pkt. Baking Powder	do.
do.	Pot Potted Beef	Contained 6% Boric Acid (42 grains) perfectly sound.
do.	Pkt. Baking Powder	Genuine
do.	Pkt. Egg Powder	do.
27th March, 1919	Milk	do.
29th March, 1919	Beer	do.
25th April, 1919	Milk	do.
do.	¾ lb. Lard	do.
do.	Milk	do.
do.	Milk	do.
do.	1 Sample of Milk	Slightly watered (non-fatty solids 84%).
do.	Potted Beef & Ham	Contained 4% Boracic Acid. 28 grains per lb. passable.
do.	2 ozs. Cream of Tartar	Genuine.
do.	½ lb. Margarine	do.
do.	2 ozs. White Pepper	Passable.
do.	2ozs. Ground Ginger	Genuine.
22nd May, 1919	2 Beer Samples	Original gravity correct under the Beer (Prices and Description) Order, 1919.
23rd May, 1919	¾ lb. Margarine	Genuine.
do.	¾ lb. Lard	do.
do.	Pkt. Self-Raising Flour	do.
do.	2 ozs. Coffee	do.
do.	2 ozs. White Pepper	do.
do.	2 ozs. Ground Ginger	do.
do.	4 ozs. Rice	do.
do.	Pint Bitter Beer	Original gravity correct under the Beer (Prices and Description) Order, 1919.

Date	Nature of Sample taken	Result of Analysis
14th July, 1919	2 Samples Milk	Genuine.
do.	½lb. Margarine	do.
do.	3 Milk Samples	do.
do.	¼ lb. Margarine	do.
do.	2 ozs. White Pepper	do.
do.	2 ozs. White Pepper	Passable.
do.	Plasmon Cocoa	Mixture of Cocoa and Plasmon containing about 10% of Arrowroot.
do.	Pkt. Baking Powder	Genuine.
do.	2ozs. Ground Ginger	Passable.
do.	2ozs. Ground Ginger	Genuine.
15th September, 1919	4 Samples of Milk	do.
do.	¾ lb. Lard	do.
do.	2 ozs. Coffee	do.
do.	2 ozs. Rice	do.
do.	2 ozs. White Pepper	do.
do.	¼ lb. Margarine	Passable.
do.	2 ozs. White Pepper	Genuine.
do.	Pkt. Rowntree's Cocoa	do.
do.	2 ozs. Coffee	do.
do.	2ozs. Ground Ginger	do.
do.	2 ozs. Cream of Tartar	do.
do.	Pkt. Self-Raising Flour	do.
do.	Pkt. Mustard	Contained 15% wheat flour. Genuine as labelled.
do.	Pkt. Cadbury's Cocoa	Genuine.
20th October, 1919	5 Samples of Milk	do.
do.	¼ lb. Lard	do.
do.	Pkt. Baking Powder	do.
do.	Pkt. Cocoa	do.
do.	2 ozs. White Pepper	do.
do.	¼ lb. Margarine	do.
do.	2 ozs. Coffee	do.
do.	Pkt. Cocoa, Welco	do.
do.	2 ozs. White Pepper	do.
do.	2 ozs. Coffee	do.
do.	Baking Powder	do.
do.	¼ lb. Margarine	do.

Date	Nature of Sample taken	Result of Analysis
24th November, 1919	5 Samples of Milk	do.
do.	2 ozs. Coffee	do.
do.	Tongue Paste	Passable.
do.	2 ozs. Coffee	Genuine.
do.	¼ lb. Margarine	do.
do.	¼ lb. Lard	do.
do.	2ozs. Ground Ginger	do.
do.	2 ozs. White Pepper	do.
do.	Self-Raising Flour	do.

SECTION IV.

PREVALENCE OF AND CONTROL OVER INFECTIOUS DISEASES.

INFECTIOUS DISEASES—

The following are the number of cases notified and deaths recorded from the various notifiable diseases:—

DISEASE	Cases notified in 1919	Deaths registered in 1919	Percentage Mortality
Measles	87	—	—
Scarlet Fever	31	—	—
Diphtheria and Membranous Croup	47	6	12·0
Enteric or Typhoid Fever ..	2	1	50·0
Puerperal Fever	3	2	66.0
Erysipelas	12	—	—
Phthisis	56	40	71·0
Other Forms of Tuberculosis	21	9	43·0
Ophthalmia Neonatorum ...	6	—	—
Para-Typhoid Fever	—	—	—

INFECTIOUS DISEASES NOTIFIED DURING THE YEAR 1919

DISEASE	All Ages	Under 1	1—5	5—15	15—25	25 45	45—65	Over 65
Measles	87	4	14	65	4	—	—	—
Diphtheria and Membranous Croup ..	47	—	13	33	—	1	—	—
Erysipelas	12	—	1	—	2	2	5	2
Scarlet Fever ..	31	—	8	20	3	—	—	—
Enteric Fever ..	2	—	—	—	—	1	1	—
Puerperal Fever ..	3	—	—	—	3	—	—	—
Ophthalmia Neonatorum	6	6	—	—	—	—	—	—
Pneumonia	112	6	26	18	14	23	15	—
Malarial Fever ..	15	—	—	—	4	11	—	—
Trench Fever ..	1	—	—	—	—	1	—	—
Tuberculosis Phthisis ..	56	—	1	12	13	26	4	—
Tuberculosis Other forms	21	—	4	13	3	1	—	—
Totals	393	16	67	171	46	66	25	2

Return of Infectious Diseases notified, shown in the various Wards in which they occurred for the year 1919:—

WARD	Measles	Diphtheria and Membranous Croup	Erysipelas	Scarlet Fever	Enteric Fever	Puerperal Fever	Ophthalmia Neonatorum	Pneumonia	Malarial Fever	Trench Fever	Tuberculosis: Phthisis	Tuberculosis: Other Forms	Totals
Farnworth	21	10	2	14	—	1	—	23	4	1	10	5	91
Halton.....	13	11	4	7	—	1	2	28	4	—	15	5	90
Simms Cross	34	12	6	4	—	—	2	32	5	—	7	5	107
Victoria	18	12	—	5	—	1	1	24	2	—	10	2	75
Waterloo.....	1	—	—	1	1	—	1	2	—	—	8	2	16
West Bank	—	2	—	—	1	—	—	3	—	—	6	2	14
Totals	87	47	12	31	2	3	6	112	15	1	56	21	393

Return of Infectious Diseases notified during the various months of the year 1919:—

DISEASE	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Measles	1	—	1	2	10	8	10	8	8	3	7	29	87
Diphtheria and Membranous Croup ..	2	2	—	4	7	2	3	2	6	9	5	5	47
Erysipelas	3	1	2	1	—	2	—	—	1	1	—	1	12
Scarlet Fever ..	2	1	3	—	1	1	—	3	3	3	2	12	31
Enteric Fever ..	—	—	—	—	1	1	—	—	—	—	—	—	2
Puerperal Fever ..	1	—	—	1	—	—	—	—	—	1	—	—	3
Ophthalmia Neonat'm	—	—	—	—	—	—	1	1	—	—	—	4	6
Pneumonia	—	—	69	9	6	2	3	—	5	4	8	6	112
Malarial Fever ..	—	—	1	2	1	4	4	1	1	1	—	—	15
Trench Fever ..	—	—	1	—	—	—	—	—	—	—	—	—	1
Tuberculosis — Phthisis ..	6	—	5	2	6	5	4	5	2	8	5	8	56
Tuberculosis — Other forms	2	—	—	2	1	3	1	—	4	1	1	6	21
Totals ..	17	4	82	23	33	28	26	20	30	31	28	71	393

NOTIFICATION OF INFECTIOUS DISEASES.

The following Table shows the number of Cases of Infectious Diseases notified during 1919, and the Preceding Ten Years.

DISEASE.	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	**1919**	Av'r'ge for 10 years, 1909-18
Smallpox	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever ...	186	167	166	213	259	134	167	218	142	29	**31**	168·1
Diphtheria, including Croup ...	15	9	26	42	37	39	31	11	55	38	**47**	30·3
Typhus Fever ...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever ...	16	35	57	11	9	...	16	1	2	...	**2**	14·7
Puerperal Fever ...	2	...	2	1	4	5	2	3	2	...	**3**	2·1
Erysipelas	18	5	23	13	10	16	9	8	9	6	**12**	11·7

SCARLET FEVER—

Thirty-one cases of Scarlet Fever were notified during the year, none of which terminated fatally. The number of cases notified in 1918 was 29—the lowest on record.

It must not be inferred from the small incidence of this disease during the past two years that the disease is unlikely to be prevalent in the future. It has happened in the past that after a period of comparative freedom from the disease there has been a recrudescence.

Fortunately, there has been a marked reduction in the mortality from this disease, as will be seen from the table below:—

	Cases notified	Deaths	Case Mortality	Cases per 1,000 of the populat'n	Deaths per 1000 of the populat'n	Percentage isolated in hospital
Annual Average for 10 years, 1894-1903	201	8·2	4·0	6·9	·28	19
Annual Average for 10 years, 1904-1913	130	4·2	2·9	4·2	·13	86
Annual Average for 5 years, 1914-18	138	2·2	1.6	4·2	·06	83
1919	**31**	—	—	**0·9**	—	—

ENTERIC FEVER—

Two cases of Enteric Fever were notified during the year. In neither case was the diagnosis confirmed bacteriologically.

The following table summarises the notifications and deaths from Enteric Fever:—

Annual Average	No. of Notific'ns	No. of Deaths	Case Mortality per cent.	Notific'ns per 1000 of the Populat'n	Deaths per 1000 of the Populat'n	Per cent. Removed to Hospital
1894-1903	95·8	17·7	18·0	3·3	0.6	53·0
1904-1913	36·9	7·9	21·0	1·2	0·25	87·0
1914-1918	3·8	0·8	21·0	01·2	0·02	100·0
1919	**2·**	**1·**	**50·**	**0·06**	**0·02**	—

The marked reduction in the number of cases and in the death-rate from this disease since the year 1913 is obvious, but there is no reduction in the case mortality, so that, in distinction from what has been seen in regard to Scarlet Fever, the disease is as fatal as ever.

The types of sanitary conveniences which existed at the dwelling houses, where cases of Enteric Fever have occurred since the year 1890 have been ascertained and are tabulated below in percentages.

Privies.	Fresh-water Closet with Ash-pit.	Waste-water Closet with Ash-pit.
93·4	2·0	4·6

The figures in this table fully emphasise the necessity there has been for the conversion of privies into fresh water closets and the substitution of bins for ashpits. The amount of money that has been expended on conversions is being amply repaid, not only in the improved health of the community, but also in the substantial reduction in the expenditure at the Isolation Hospital

DIPHTHERIA—

Forty-seven cases of Diphtheria were notified during the year, of which 32 were removed to Hospital.

A summary of the notifications and deaths from this disease since the year 1894 is as follows:—

Annual Average	No. of Notific'ns	No. of Deaths	Case Mortality per cent.	Notific'ns per 1000 of the Populat'n	Deaths per 1000 of the Populat'n	Per cent. Removed to Hospital
1894-1903	23·5	6·5	27·5	0·8	0·22	—
1904-1913	26 3	5·0	1·90	0·8	0·16	40·4
1914-1918	43·0	4·8	11·2	1·3	0·15	69·0
1919	47·0	6·0	12·7	1·4	0·18	

It will be seen that the number of cases continues to increase year by year. The case mortality is lower than it was twenty years ago, but it is still too high. This reduction in mortality is entirely due to the more extensive use of antitoxin.

Most of the deaths which do occur are in children who have been ill for several days before a doctor is called in, and consequently antitoxin is administered late in the disease. It cannot be too strongly emphasised that a sore throat in a child may be a very serious thing, and that medical advice should be promptly secured.

The following figures—culled from the Report of another Health Department of cases treated for a series of years—illustrate the importance of the early administration of antitoxin:—

	No.	Died.	Mortality.
Injected 1st day	355 ...	1 ...	0.27 per cent.
Injected 2nd day	1018 ...	17 ...	1.67 ,,
Infected 2nd day	1018 ...	17 ...	1·67 ,,
Injected 3rd day	1509 ...	57 ...	3.77 ,,
Injected 4th day	720 ...	82 ...	11.39 ,,
Injected later	469 ...	119 ...	25.37 ,,
Totals	4071	276	6·77 per cent.

The diagnosis of Diphtheria rests upon two kinds of evidence—clinical and bacteriological. In mild cases, and in the early stage, only bacteriological evidence can be relied upon. However, the clinical manifestations of the disease are important and cannot be ignored. It is in most cases possible to say from clinical symptoms that a case is one of diphtheria; but it is not possible to say from symptoms alone that a case is not one of diphtheria. Swabs, therefore, should, if possible, be made in every case. They are very necessary in the mild cases.

The mere presence of diphtheria bacilli in the throat does not prove that a person has diphtheria; but when diphtheria bacilli are associated with evidence of inflammation of the throat or nose the diagnosis may be regarded as established.

It has been the practice at the School cliniques for years to swab every case of sore throat showing the slightest suspicion of membraneous patch, and by this means many early cases of the disease have been discovered.

Diphtheria bacilli are sometimes found to exist for long periods in the throat or nose of a healthy person, and the disease never develops. Such persons are, however, infective, and may spread the disease in a virulent form to others. Bacterioligical evidence is the only means of discovering these "carriers" of infection.

It cannot be too frequently repeated that the important elements in the prevention of diphtheria are the rigid scrutiny of the milder types of throat affection, the thorough isolation and disinfection of the individual patients.

Diphtheria antitoxin is kept at the Isolation Hospital, Police Station, and Town Hall. 120 phials were used during the year.

MEASLES—

There were no deaths from this disease during the year.

The deaths from Measles during the preceding 10 years is as under:—

1909	16	1914	22
1910	6	1915	11
1911	2	1916	21
1912	25	1917	4
1913	23	1918	26

It will be observed that measles recurs in epidemic form every second or third year, and that as a cause of death ranks first among the acute fevers of children.

It is to be regretted that measles is still regarded by many parents as so mild a disease that its prevention is thought to be of little importance, and no effort is made to limit its extension. The great probability that every person at some time of his life will have the disease is no justification of unnecessary exposure. Although in older children measles is usually mild, this is not so in infants and young children. It is essential that every child shall be protected from attack as long as possible and not wilfully exposed, as is frequently done.

Apart from the high mortality in young children measles is often followed by chronic enlargement of the glands which may or may not be tuberculous, chronic bronchitis, chronic nasal catarrh, enlarged tonsils, adenoids, otitis media, blepharitis, etc., and without doubt increases a child's susceptibility to tuberculosis. Measles is, therefore, an affection which requires careful management.

Under the Public Health (Measles and German Measles) Regulations, 1915, 87 cases of these diseases were notified, as compared with 1,677 in 1918, 255 in 1917, and 787 in 1916. These Regulations are now withdrawn and measles is no longer notifiable.

The difficulty of preventing the spread of measles is largely due to the fact that the rash does not appear until the fourth day of the disease, and the latter cannot be diagnosed until the rash has developed. The period of catarrh which precedes the eruption is very contagious, and since the child is not isolated during that time others are exposed to the infection. It is not to be expected that notification will reduce the incidence of the disease very considerably, but if notification is followed up with home nursing and other necessary hospital treatment there will be lessened mortality and fewer serious sequelæ.

Arrangements were made during the year for all cases of measles and whooping-cough to be nursed by the District Nurses. The arrangemens have proved to be most beneficial, and their continuance is recommended.

In view of the fact that home nursing and hospital accommodation is available one is bound to advocate that the disease be again made notifiable.

INFLUENZA.

The total number of deaths from Influenza during the year 1919 was 109, compared with 105 in 1918, and 19 in 1917. Of the 109 deaths, 61 were males and 48 females. It will be remembered that Influenza broke out in epidemic form during the year 1918 in two distinct periods. The first appeared in July and the second in November, the second wave being the more virulent. In February of 1919, it again asserted itself and lasted for two months.

The following table indicates the age and sex distribution of the deaths from the disease during the various epidemics:—

PERIOD	Age								Sex		Total
	Under 1	1—2	2—5	5—15	15—25	25—45	45—65	over 65	M.	F.	
July 1918 ..	2	—	1	—	3	7	4	1	12	6	18
Nov. 1919 ..	4	6	7	12	4	28	12	4	39	38	77
February and March 1919 ..	—	1	2	2	9	29	18	8	35	34	69

It will be noticed that the disease was most fatal at the age period 25-45, and least of all in childhood.

The following table gives the Ward distribution:—

PERIOD.	Farnworth	Halton	Simms Cross	Victoria	Waterloo	West Bank
July 1918	1	2	3	4	4	4
Nov 1918	6	8	6	9	25	23
Feb. & Mch. 1919	17	17	11	15	8	1

It will be observed that during the epidemic in 1918 the Waterloo and West Bank Wards were most affected, and that during 1919 these Wards enjoyed an immunity.

A large Ward at the Isolation Hospital was again utilised for the treatment of cases which could not be adequately nursed at home. Fifty-one cases were admitted during the year, compared with 32 the previous year.

POOR LAW RELIEF—

I am indebted to the Medical Officer of the Whiston Infirmary and to the Relieving Officers for the following statements respecting indoor and outdoor relief:—

	Under 16 Years of Age	Adults M	Adults F	Total
Infirmary	61	98	47	206
Workhouse	—	16	7	23
Total	61	114	54	229

The numbers in receipt of out-door relief were:—Men, 47; women, 215; children, 390; making a total of 652.

WHOOPING COUGH—

Thirty-three deaths were reported, as compared with 8 last year; equivalent to a death rate of 1·0 per 1,000 of the population, as compared with 0.28 last year.

The ward distribution etc., of these deaths was as follows:—

Jan.	Feb.	March	April	May	June
3	7	15	6	—	—

July	August	Sept.	October	Nov.	Dec.
1	—	1	—	—	—

Farnworth	—	Victoria	7
Halton	7	Waterloo	12
Simm's Cross	6	West Bank	1

The ages of deaths from Whooping Cough:—

	Under 1 year	1-2 years	2-5 years	5-15 years
No. of deaths... ...	5	11	14	3

TUBERCULOSIS—

During the year 56 cases of Pulmonary Tuberculosis were notified, as compared with 52 last year, 59 in 1917, 61 in 1916, 98 in 1915, 99 in 1914, and 96 in 1913. There were 40 deaths during the year, which represents a death-rate of 1.22 per 1,000 of the population. Twenty of these deaths were registered in Widnes; the remaining 20 occurred in the Union Infirmary. There were 40 deaths in 1918, 38 in 1917, 47 in 1916, 26 in 1915, 49 in 1914, and 45 in 1913.

The ward distribution of deaths from this disease was as follows:

Ward.	No. of deaths.	Ward.	No. of deaths.
Farnworth	4	Victoria	11
Halton	6	Waterloo	8
Simm's Cross	6	West Bank	5

It will be seen that the mortality from Phthisis continues to be high. This is not surprising when one has regard to the amount of overcrowding and poor housing conditions that exist in portions of the Borough. The healthy home is the first necessity in the prevention of consumption. The ward statistics, taken over a period of years, furnish an interesting contribution to the linking up of the dwelling as the predisposing cause of phthisis. In those parts where there is an aggregation of houses in a small area, narrow passages, etc.— where fresh air and sunshine find access with difficulty - the death-rate from this disease is more than double the rate in the residential portion of the town. The demolition of insanitary areas and the re-housing of the displaced population is the preventive measure which will do most to reduce the incidence of this disease.

The County Authority is responsible for the administration of the tuberculosis provisions of the National Insurance Act. A weekly return is made to the County Medical Officer of all cases of tuberculosis notified, and the homes are subsequently visited by one of the County nurses. A copy of her report is forwarded to this Health Department and any defects found to exist in the respective dwelling houses are dealt with by the Local Authority. A Dispensary has been established at Brendon House, and patients are examined there on certain days by the County Tuberculosis Officers.

The amount of sanatorium accommodation is at present inadequate for the needs of the community. Sanatorium treatment is of the greatest value in the earlier stages of the disease, but it is also necessary for the isolation of patients who are in the advanced stage. With a view to assisting the County Authority to provide further institutional treatment, particularly for the latter cases, the Local Authority is proposing to erect buildings on the land east of the present Isolation Hospital.

Houses and bedding are disinfected after the removal of patients to Sanatoria or where death has taken place.

OTHER FORMS OF TUBERCULOSIS—

Twenty-one cases were notified during the year, as compared with 37 in 1918, 40 in 1917, 19 during 1916, 43 during 1915, 28 during 1914, and 47 during 1913.

There were eight deaths during the year, which represent a death-rate of 0.2 per 1,000 of the population.

Ward distribution of cases of other forms of Tuberculosis:—

Farnworth	3	Victoria	1
Halton	1	Waterloo	0
Simm's Cross	3	West Bank	0
			8

SECTION V.

MATERNITY AND CHILD WELFARE—

The Authority has a staff of two School Nurses and three Health Visitors. For administrative purposes their services are pooled, and they carry out the combined duties in defined areas. In their capacity as Health Visitors, the number of infants visited during the year was 998, compared with 627 in 1918, while the number of infants and young children re-visited was 1,957, compared with 1,240 in the previous year. It will thus be seen that there has been a considerable increase in the amount of home visiting. All still-births and infant deaths are investigated.

The most important development of the work during the year was the provision of an Infant Welfare Centre at Cliffe House, Mill Brow. During the war period this house was utilised by the United Alkali Co., Ltd., as a Day Nursery, but on the cessation of hostilities the Company decided to close the institution and to offer the whole equipment to the Corporation. This generous offer was readily accepted, and a Welfare Centre was established. This Centre serves the Farnworth and Halton Wards; the Centre at the Town Hall serving the remaining Wards.

Except in cases of poverty, the only thing which is provided free at the Centres is knowledge. Working-class mothers are not pauperised and are not encouraged to pauperise themselves. Competence and self-respect are encouraged by every possible means.

Advice on infant feeding is the chief work at the Centres. One was always under the impression that ninety per cent. of infants in Widnes were entirely breast-fed, but the experience gained at the Centres entirely disproves this. Inability to breast feed was sometimes due to maternal illness, but in the majority of cases the history given was that the supply showed signs of decreasing when the mother began to get about. In such cases the remedy is for the parent to rest more, but this is so often impracticable in working-class homes. The gain to the infant of breast-feeding is so great that its maintenance is attempted by every available means before resort is made to artificial feeding. Many means of modifying and preparing milk to suit the artificially-fed infant are advocated, but none is so good as the modification which takes place by giving the milk to the mother instead of to the infant, and thus making her the physiological modifier and promoter of milk for her infant. Artificial feeding is only contemplated when strenuous efforts in this direction have failed, and if complete breast-feeding becomes impracticable, partial breast-feeding is preferred to entire artificial feeding.

Dried milk is advocated where artificial feeding is necessary, and the results have been very satisfactory. It does not suit every infant, so that occasionally the feeding resolves itself into a species

of experiment to determine what a certain baby will thrive on. This experiment, however, must be conducted on a scientific basis. It is worse than useless changing about from one food to another with no knowledge of what is required or what may be disagreeing with a child. The chances are that, if this is done, and one is certain that it frequently occurred prior to the establishment of Welfare Centres, the baby will rapidly drift from bad to worse.

Since the weight of the infant is the best means we have of measuring its nutrition, this is sytematically done at the Centres. It may be said to be as valuable a guide in infant feeding as is the temperature in a case of fever. It is not the only guide to a child's condition, but it is of such importance that we cannot afford to dispense with it during the first two years.

Instruction in feeding is not confined to the first year of life. The ideas of the laity in regard to what is proper for a child after he has outgrown an exclusive milk diet are very erroneous. Most of the disorders of the digestion of early childhood are directly traceable to dietetic errors. Among the poor the majority of infants are given solid food too early, in too large quantities, and improperly prepared. Among many of the better class, the disposition is to go to the opposite extreme—to keep the child too long upon a diet composed exclusively of milk.

Infant consultations are held as follows:—Mondays at the Town Hall Centre for Simm's Cross and Victoria Wards; Tuesdays at the Town Hall for Waterloo and West Bank Wards; Wednesdays at Mill Brow for Farnworth and Halton Wards.

The attendances during the year were:—Infants under 1 year, 554; children 1-5 years, 356; total attendances, 4,350. Having regard to the fact that this is the first year it was possible to thoroughly establish Welfare Centres it is satisfactory to note that over 50 per cent. of the infants born during the year attended one of the centres.

During the year 800-lbs. of dried milk were supplied gratuitously to nursing mothers or infants, under the Milk Order, 1918.

It was only possible during the year to carry out post-natal work. As the time becomes opportune recommendations will be made for the extension of the scope of this work so as to include:—

(*a*) The provision of beds for the admission of ailing infants.

(*b*) The establishment of a Maternity Home,

(*c*) The establishment of an Anti-Natal Clinic.

Arrangements have been made with the local Queen's Nurses' Association for the home treatment of all cases of measles.

Six cases of Ophthalmia Neonatorium were notified during the year, and in none of them was any permanent injury done to the eyes. Severe cases are sent to St. Paul's Eye Hospital, Liverpool; two such cases were admitted to that institution during the year.

SECTION VI.

SANITARY ADMINISTRATION—

1. Staff.—The present staff consists of a Nuisance Inspector, two Assistants, a Cleansing Superintendent, and a Clerk. One of the Assistants is practically wholly occupied in housing inspection; the other deals with the investigation of infectious disease, inspection of workshops, and places subject to special regulations, in addition to ordinary nuisances.

The administration of the Health Department is difficult owing to inadequate and unsuitable accommodation. A great deal of time would be saved and there would be greater efficiency if the staff were housed in premises which were contiguous.

ISOLATION HOSPITAL ACCOMMODATION—

The Isolation Hospital at Crow Wood has accommodation for 36 patients, and consists of (1) a block containing two large wards, day rooms and nurses' room for Enteric Fever cases; (2) a Scarlet Fever block, comprising five wards; (3) two observation wards; (4) discharging block; (5) administrative block; and (6) laundry, mortuary, and disinfecting station. The buildings are modern, bright and sanitary, and the wards are for the most part lined with tiles, which help to cleanliness. There are extensive grounds in which the convalescent patients can exercise.

A permanent Nursing Staff, consisting of Matron, two Charge Nurses, and one Probationer Nurse is provided.

A Small-pox Hospital has been erected at Barrow's Green, on the outskirts of the Borough. This is a wooden building with brickwork foundation, and could accommodate eight patients. The foundations of another ward have been laid, so that the erection of a similar building can be quickly arranged if necessary. This Hospital was last used in 1902.

The following table shows the number of patients treated in Hospital (Crow Wood) during the year:—

	Scarlet Fever	Influenza	Diphtheria	Total
In Hospital, Dec. 31st, 1918	—	2	—	2
Admitted during 1919 ..	19	51	32	102
Died	—	12	4	16
Remaining in Hospital December 31st, 1919 ..	10	—	—	10

A Steam Disinfector is stationed in the Hospital grounds, the attendant residing at the lodge. One hundred and five houses and 3,495 articles of clothing were disinfected during the year.

ACCIDENT HOSPITAL—

This Hospital was established in the year 1878 and is utilised for the treatment of Accidents, and any other cases which require operative treatment. It does not occupy a central position, but the front portion of the building faces the river Mersey, and a better situation could not have been chosen for such a Hospital.

The Hospital was originally two houses which were considerably altered, and although the building could not be described as modern, it fulfilled the purposes for which it was intended, and the results were all that could be desired.

It was decided to carry out many important alterations to the building, and these were completed in the year 1914.

It must be admitted by all that these alterations and additions have modernised the Hospital, and rendered it worthy of the Borough. The scope of the work done at the Hospital has been extended during the year; operations for enlarged tonsils and adenoids being performed there.

A summary of the cases of 1919:—

Patients in Hospital, December 31st, 1918	8
Admitted during 1919	94
Out-Patients during 1919.....	722
Operations	99
Deaths	5
Patients in Hospital, December 31st, 1919	5

3. *ACTS IN FORCE IN THE DISTRICT—*

The important local Act in force within the Borough is the Widnes Corporation Act, 1908. This Act contains many important sanitary provisions.

4. *BACTERIOLOGICAL WORK—*

Arrangements have existed for some years for bacteriological examinations to be made by Dr. Annett, Runcorn. The bulk of such examinations are for the detection of Diphtheria Bacillus. The majority of the specimens of Sputum are examined by the Tuberculosis Officers.

The following Bacteriological Examinations have been carried out during the year by Dr. Annett:—

In connection with Diphtheria—

Number of Swabs Examined	104
,, giving POSITIVE Results ...	40
,, ,, NEGATIVE ,, ...	64

In connection with Phthisis—

Number of Specimens of Sputum Examined for TUBERCLE BACILLUS	12
Number giving POSITIVE Results ...	1
,, ,, NEGATIVE ,, ...	11

SECTION VII.

HOUSING—

1. General housing conditions in the district:—

In order to obtain correct data as to the housing needs of the town a house-to-house census was taken by the staff at the beginning of the year.

The following table summarises the housing conditions:—

SUMMARY OF HOUSING CENSUS.

Ward.	No. of Bedrooms.					Total	Population.	
	1	2	3	4	Over 4			
Farnworth N....	11	163	157	61	37	429	2063	6442
Do. S....	1	434	516	75	14	1040	4379	
Halton ...	8	617	386	70	20	1101	5272	
Simm's Cross ...	—	620	535	63	4	1222	6117	
Victoria ...	6	446	537	40	24	1053	5835	
Waterloo ...	7	572	270	17	8	874	4528	
West Bank ...	4	452	306	14	10	786	3616	
Total ...	37	3304	2707	340	117	6505	31810	

The number of working-class houses of the types given in the survey is 5,961. The particulars of the various types are as follows:

(*a*) Living Room, Scullery and two Bedrooms	2329
(*b*) ,, ,, three ,, ...	218
(*c*) Parlour, Living Room, Scullery and two bedrooms	975
(*d*) ,, ,, ,, three ,,	2256
(*e*) ,, ,, ,, four ,,	146
(*f*) Living Room and one Bedroom	37

I am indebted to the Borough Surveyor for the following table, which gives the number of houses erected from 1904-1915:—

Year.	Houses with three bedrooms and over.	Houses with two bedrooms only.	Total number of houses erected.
1904	27	8	35
1905	52	20	72
1906	85	42	127
1907	38	54	92
1908	52	24	76
1909	51	21	72
1910	37	26	63
1911	38	20	58
1912	47	84	131
1913	73	32	105
1914	66	45	111
1915	2	20	22
Total	568	396	964

A large number of the houses and their out-buildings are very old, and in poor structural repair. The worst property exists in Waterloo and Victoria Wards; in the Moss Bank, Pleasant Street, and Bedford Street districts in Halton Ward; and in isolated parts of North Farnworth. The houses in West Bank Ward are better than those referred to, especially those in the western portion. The houses in Sinna's Cross Ward are better than those in Waterloo and Victoria Wards, but many of them are closely aggregated in long streets, and there is no vacant land around them, such as exists in the Victoria and Waterloo Wards. Elsewhere the houses are of comparatively modern construction.

The interiors of a large number of houses are very dirty, and while some are in this condition owing to the fact that they have not been cleansed by the landlords for several years, a larger number are so dirty by reason of the habits of the tenants.

With the exception of a few houses in Farnworth Street, William Street, Cliffe Street, and Oxford Street, every house in the Borough has provision for through ventilation. In those places where the houses are unduly aggregated together the ventilation is fairly adequate by reason of the open spaces that exist in the neighbourhood. The value from the point of view of ventilation of these large areas of waste land cannot be over-estimated.

No new houses were built during the year 1919. The extent of house shortage and the amount of overcrowding is illustrated in the following tables:—

TABLE No. 1.—HOUSES OCCUPIED BY SINGLE FAMILIES.

No. of Bedrooms	No. of Persons occupying the respective Houses																				Total
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	17	20	25	30	40	
1	1	5	13	7	6	1	2	1	1													37
2	5	68	418	556	604	513	380	270	171	68	24	12	6									3098
3	6	33	297	442	499	404	269	190	117	87	46	15	7	2								2414
4	2	3	23	50	53	52	45	27	18	12	4	4	3									296
Over 4	1	2	8	14	16	18	14	6	5	3	2	3	3				1	1	1	3	2	103
Total ...	15	111	759	1069	1178	991	710	494	312	170	76	34	19	2			1	1	1	3	2	5948

TABLE No. 2.—HOUSES OCCUPIED BY TWO FAMILIES.

No. of Bedrooms	No. of Persons occupying the respective Houses																				Total
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	17	20	25	30	40	
2				4	18	48	39	27	27	17	14	3	5									202
3					20	47	61	48	45	33	19	9	1	2								285
4					2	2	4	7	12	2	4	2	3	1		1						40
Over 4					1	1	2		2	2	3	1	1									13
Total ...				4	41	98	106	82	86	54	40	15	10	3		1						540

TABLE No. 3.—HOUSES OCCUPIED BY THREE FAMILIES.

No. of Bedrooms	No. of Persons occupying the respective Houses																				Total
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	17	20	25	30	40	
2							1			1		1										3
3						1	2	1	1	1		2										8
4							1	1			1					1						4
Total...						1	4	2	1	2	1	3				1						15

TABLE No. 4.—HOUSES OCCUPIED BY FOUR FAMILIES.

No. of Bedrooms	No. of Persons occupying the respective Houses																				Total
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	17	20	25	30	40	
2														1								1
Over 4															1							1
Total...														1	1							2

TOTAL.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	17	20	25	30	40	Total
15	111	759	1073	1219	1090	820	578	399	226	117	52	29	6	1	2	1	1	1	3	2	6505

The chief defects found to exist in unfit houses are:—Roofs, floors, yards, and internal walls. There has been great difficulty experienced in obtaining repairs to property owing to the shortage of material and labour.

The estimated number of houses required are as under:—

(*a*) To meet the unsatisfied demand for houses (taking account of growth of population, overcrowding, &c.	500
(*b*) Re-house persons to be displaced by the clearance of unhealthy areas	400
(*c*) Replace other dwellings which are unfit for human habitation and cannot be made fit	200
Total	1100

It will not be possible to deal with unhealthy areas or houses unfit for habitation until progress is made with the housing schemes. Reference has already been made in the report to the districts where the housing conditions are bad. The majority of the inhabitants in those areas do not possess the minimum requirements of a decent home, so that all our schemes for attending to the health of mothers and young children will not be productive of the best results until the people have a decent environment.

It is vital that the housing scheme should be pressed forward with all energy.

SECTION VIII.

FACTORY AND WORKSHOP ACT—

In compliance with Section 132, I have to report on inspections under the above Act and also send a copy of the report to the Secretary of State.

A Register is kept of all factories and workshops and from the tabulated statement it will be seen that there are 113 registered workshops in the Borough, including 22 bakehouses. There are no underground bakehouses.

1.—Inspection.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises	Number of		
	Inspections	Written Notices	Prosecutions
Factories.....	108	46	Nil
Workshops.....	146	22	Nil
Workplaces	...	...	...
Total.....	254	68	...

2.—Defects Found.

Particulars	Number of Defects	
	Found	Remedied
Nuisances under the Public Health Acts—		
Want of cleanliness	75	75
Want of ventilation	10	10
Overcrowding	—	—
Want of drainage of floors	1	1
Other nuisances...	95	95
Sanitary accom'dation — insufficient	5	5
Sanitary accom'dation — unsuitable or defective	5	5
Sanitary accom'dation — not separate for sexes..	3	3
Offences under the Factory and Workshops Act—	—	—
Illegal occupation of underground bakehouse (s. 101)	—	—
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)	—	—
Other offences	—	—
Total	194	194

Nature of Work	Lists received from Employers					
	Sending twice in the year			Sending once in the year		
	Lists	Outworkers		Lists	Outworkers	
		Contractors	Workmen		Contractors	Workmen
Wearing Apparel—						
Making, etc.	...	...	...	...	...	...
Boot Repairing	4	...	4	...	...	...
Total	4	...	4	...	...	...

4.—Registered Workshops.

Workshops on the Register (s. 131) at the end of the year.	Number.
Confectioners	8
Bakehouses	22
Dressmakers	24
File Cutters	3
Millinery	9
Laundries	7
Tailors	4
Others	36
Total number of workshops on Register ..	113

5.—Other Matters.

Class.		Number
Failure to affix Abstract of the Factory and Workshop Act (s. 133)		Nil
Action taken in matters referred by H M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5)	Notified by H.M. Inspector	Nil

SANITARY DEPARTMENT.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.

GENTLEMEN,—

I have the honour to submit to you my Twenty-ninth Annual Report upon the work done in connection with the Sanitary Department, and in doing so wish to thank you for the consideration you have extended to me in carrying out these duties.

The following pages indicate, as briefly as circumstances will permit, the work done during the year 1919:—

TABLE I.

ABATEMENT OF NUISANCES—

Number of preliminary Notices served	615
,, Seven Days' ,,	11
,, Fourteen Days' ,,	8
,, 24 Hours ,,	14
,, Repeat ,,	256
Re-inspections made	1243
Total Number of Nuisances	1574
Cleansing Notices served under Sec. 46, P.H. Act, 1875	15
Summonses taken out for Non-Compliance	nil
Notices not complied with	nil

TABLE II.

DRAINS—

Defective and Re-laid	24
Grids provided to Yard Gulleys	9
Yard Gulleys provided and fixed	35
Choked Drains un-stopped	59

WATER-CLOSETS—

Defective W.C. Pedestals	27
Defective Connections between Flushpipe and W.C. Pedestal	50
Defective Connections between W.C. Pedestal and Drain	32
Defective Flushing Cisterns	46
New Flushpipe provided to Cisterns	2
Foul Privies converted into F.W. Closets	4
Waste Water Closets converted into F.W. Closets	6
Choked W.W. Closets	17

SLOP-STONES—

New Slopstones provided	6
Slopstones re fixed	7
Slopstone Waste-pipes provided	42
Slopstone Waste-pipes choked	5

SOIL-PIPES—

Defective and repaired	8

VENTILATING SHAFTS—

Defective and repaired	11
Disconnected from Yard Drain	3

DUSTBINS—

Notices re Defective Ashbins	364
Statutory Notices do.	133
Ashpits abolished	4

HOUSE DEFECTS—

Defective House and Scullery Roofs repaired	91
Defective Plaster on Internal Walls made good	154
Choked Downspouts and Eavegutters cleaned out	74
Defective Ceilings repaired	33
Defective Eavegutters and Downspouts repaired	84
Cement Skirtings provided	10
Interior Walls cleansed and colour-washed	151
Yards Cleansed	11
Interior Ceilings whitened	159
Defective Floors repaired	72
Internal Floors cleansed	8
Defective Staircases repaired	12
Sashcords provided to Windows	82
Defective Chimney Stacks repaired	9
Defective Water Storage Cisterns	2
Yard Areas re paved	9
Yard Gates repaired	55

W.C. Doors repaired	49
W.C. Roofs overhauled and repaired	9
Kitchen Ranges overhauled and repaired	10
Washing Boilers provided and fixed	8
Dangerous Walls repaired	7
Defective Doorsteps repaired	2

MISCELLANEOUS—

Keeping of Animals (so as to be a nuisance) discontinued	10
Accumulations removed	14
Overcrowding	2
Hearthstones repaired and fixed	5
Smoke abatements	5
Disused Well abolished	1

CORRESPONDENCE—

Notes to Borough Surveyor *re* Choked Drains and W.C's., etc.	441
Letters written	642
Post Cards written	71
Repeat Notices served	256
Workshop Notices	74
Intimation of Nuisances to Town Clerk	11
Notices *re* Dirty Yards and Closets	14
Notices under Sec. 41, P.H. Act, 1875	7
Notices under Daries, Cowsheds and Milkshops Order, 1885	15
Notices under Sec. 5, I.D.P. Act, 1890	10
Notices *re* Manure Receptacles	4
Intimation to Water Engineer *re* Waste of Water	14

DAIRIES, COWSHEDS AND MILKSHOPS ORDER, 1885—

AND REGULATIONS OF THE LOCAL AUTHORITY, 1907—

The number of Dairymen and Purveyors of Milk on the Register at the end of 1919 was 51. The dairies, cowsheds and milkshops have frequently been visited. The systematic inspection has impressed upon Milk Dealers their responsibilities *re* cleanly state of milk shops, so that they cleanse the walls and ceilings on their own initiative. No contravention was met with during the year.

COWSHEDS—

There are 11 Cowsheds in occupation in the Borough. One contravention was met with. There are 10 cowkeepers living outside the Borough who purvey milk in Widnes.

COMMON LODGING HOUSES—

The number of Common Lodging Houses is eight, seven of which provide accommodation for Males only. I am pleased to report that the keepers conduct the houses in a very satisfactory manner, and keep the bedding and premises clean. Each Lodging House is fitted up with a sufficient number of water closets and lavatories.

Minor contraventions occurred in four instances, and these were duly attended to, after notice. New drains were laid for Nos. 2/4, Lugsdale Road.

BAKEHOUSES—

There are twenty-two Bakehouses in the Borough, and they have been kept in a satisfactory condition.

SLAUGHTER HOUSES—

There are 6 Slaughter Houses on the Register. Two of these Slaughter Houses were in existence prior to the passing of the Public Health Act of 1875.

They have been kept in a satisfactory condition. The greater part of the fresh meat consumed within the Borough was brought from the Birkenhead Abbatoirs, so that there was comparatively little slaughtering done in the Borough. There is, of course, a large amount of frozen meat sold in Widnes.

KNACKERS YARD—

There is one Knacker's Yard situated on the east side of the Borough, but no complaints have been received regarding it.

DISINFECTION—

A visit was paid to every house in which it was reported that a case of infectious disease existed, and it was necessary to serve a notice under Section 5 of the I.D.P. Act, 1890, in respect to 13 houses which required cleansing. Infected rooms are in every case disinfected with Formalin Spray, and the bedding and clothing are disinfected by steam.

Schools.—A thorough inspection of all the schools in the Borough was made in the early spring, and they were subsequently disinfected and cleansed.

Soldiers' Clothing—On behalf of the Rev. H. N. Perrin, of the Vicarage Hospital, Runcorn, a quantity of bedding and soldiers' clothing was disinfected on two occasions.

FACTORY AND WORKSHOPS-

There are 113 Workshops in the Borough. All Factories are provided with sanitary conveniences of the latrine type on the Fresh Water Carriage System with Automatic Flushing Cisterns, which meet with the requirements of the Sanitary Accommodation Order of 1903, issued by the Home Secretary.

The sanitary conveniences generally were kept in a satisfactory condition.

In accordance with procedure, the attention of the various Works' Managers was drawn in early spring to the requirements of the Acts.

SMOKE NUISANCE—

No complaints were received with regard to the emission of black smoke. It would be, however, of great advantage if bye-laws were made fixing a time limit with regard to the emission of black smoke.

Messrs. Pochins, Ltd., effected an improvement at their works, diverting the flues and providing a fan directing the smoke up a taller chimney.

FOOD DESTROYED DURING THE YEAR 1919—

Apples	588 lbs.
Beef	48 lbs.
Fish	4½ cwt.
Lamb	34 lbs.
Ham	11¾ lbs.
Dates	60 lbs.
Cheese	199 lbs.
Rabbits	in number 188...

HOUSING AND TOWN PLANNING ACT, 1909—

The inspections carried out during the year 1919 under this Act may be summarised as follows:—

Number of Houses inspected under Section 17	263
Number of other Houses specially inspected and found to be unfit for habitation	200
Number of Closing Orders made	nil
Number of Houses put in a fit state of habitation after making Closing Order	nil

Details of Houses inspected are given below:—

Street.	Nos.	Number of houses Inspected.	No. of houses in which defects existed.
Marsh Street	7	1	1
Wellington Street	45	1	1
Sankey Street	2—20	10	10
Parsonage Road...	1— 9	5	3
Parsonage Road...	11—15	3	3
Parsonage Road...	17—25	5	5
Parsonage Road...	2—24	12	7
Milton Road	17	1	1
Bank Street	31—43	7	7
Bank Street	45—55	6	6
Albert Road	104	1	1
Walter Street	2—12	6	6
Wright Street ...	2—16	8	8
Muspratt Street ...	1- -41	21	21
Brown Street	4, 6, 8	3	3
Viaduct Street ...	13—63	26	26
Irwell Street	56	1	1
Gossage Street	2—20	10	10
Wright Street ...	64	1	1
Moss Street	50	1	1
Milton Street ...	3—27	13	13
Catherine Street...	4—22	10	10
Dock Street .....52—100		25	25
Pear Street	65—97	17	17
Dock Road	2	1	1
Wareing Street ...	2—54	27	27
Major Cross Street	1—49	25	25
Mersey View	1— 9	5	5
Ann Street	28	1	1
Beech Terrace ...	1—11	6	6
Suttons Lane ...	21—23	2	2
Caroline Street ...	28—30	2	2
Totals		263	256

As a result of the inspections made, 234 notices were served under Section 15, in respect of 1,937 nuisances, the particulars of which are shown in the appended table:—

Defective plaster on houses, walls and ceilings	165
Defective house floors (tiled)	183
Defective house floors (wood)	85
Houses to be cleansed	203
Defective external house walls	170
Defective house roofs	202
Defective windows and sashcords	125
Absence of washing boilers	10
Defective fireplaces	19
Eavegutters passing through bedrooms disconnected	4
Defective eavegutters and downspouts	193
Defective closet roofs	17
New ashbins provided	16
Defective slopstone waste pipes	8
Defective doorsteps	13
Defective staircases	9
Absence of yard gates	10
Defective yard gullies	9
Defective chimney stacks and chimney pots	30
Damp house walls	17
Smokey chimneys	3
Defective and insecure slopstones	10
Defective connections between flush pipes and w.c. pedestals	12
Defective connections between drains and w.c. pedestals	9
Defective washing boilers	3
Dry rot in house walls	21
Defective closet floors	11
Defective ventilating shaft	1
Absence of food storage accommodation	112
Yards to be repaved	150
Defective food cupboards	11
Defective boiler brickwork	35
Defective hearthstones	9
Loose and defective chair rails	4
Privies to be converted into fresh water closets	3
Covered accommodation for washing boilers	4
Defective skirting boards	51
Total	1937

The undermentioned property has been renovated or repairs effected:—

Wellington Street, 45.
Milton Road, 17.
Sankey Street, 2—20.
Parsonage Road, 1—25.
Albert Road, 104
Wright Street, 64.
Ann Street, 28.
Beech Terrace, 1—11.
Mersey View, 1—9.

Work is at present in hand at the following:—

Brown Street, 4, 6, and 8.
Bank Street, 31 - 55.
Walter Street, 2—12.
Wright Street, 2—16.
Muspratt Street, 7—21.
Viaduct Street, 39—63.
Irwell Street, 56.
Gossage Street, 2—20.
Milton Street, 3—27.
Catherine Street, 4—22
Moss Street, 50.

GENERAL—

The following sanitary improvements were effected during the year:—

"The Hawthorns," Derby Road, was converted into three separate dwellings, each being provided with a fresh water closet. In addition, a new sewer was laid.

House, No. 186, Derby Road, was also converted into two houses with fresh water closets.

Waste water closets at the undermentioned houses were converted into fresh water closets:—

22 and 24, Victoria Street,
27, James Street, and
12 and 38, Irwell Street

The privies at Nos. 50, 52, 54, and 56, Lunt's Heath Road were voluntariy converted by the owners into fresh water closets.

No. 38, Waterloo Road was found to be without a water supply, and was eventually supplied with same.

In conclusion, I have only to add a sincere word of appreciation of the loyal and ready services of Messrs. J. G. Macdonald, P. Price, and C. A. Pennington, members of the staff, during the year.

I remain, Mr. Chairman and Gentlemen,

Your obedient servant,

WALTER LOWE.

Chief Sanitary Inspector.

BOROUGH OF WIDNES.

ANNUAL REPORT AS TO THE EXECUTION OF THE CANAL BOATS ACTS, 1877 and 1884, for the year 1919.

INSPECTION OF BOATS—

The inspection of Canal Boats is undertaken by the Inspector of Nuisances (Mr. Walter Lowe, Town Hall, Widnes), no salary being paid.

NUMBER OF BOATS INSPECTED—

The number of boats inspected during 1919 was 5.

AS TO INFRINGEMENTS OF ACTS AND REGULATIONS—

The following are the particulars of Infringements of Acts and Regulations during the year:—

(*a*)	Registration	Nil.
(*b*)	Notification of change of Master ...	Nil.
(*c*)	Certificates	Nil.
(*d*)	Marking	Nil.
(*e*)	Overcrowding	Nil.
(*f*)	Separation of Sexes	Nil.
(*g*)	Cleanliness	Nil.
(*h*)	Ventilation	Nil.
(*i*)	Painting	Nil.
(*j*)	Provision of Water Cask	Nil.
(*k*)	Removal of Bilge Water	Nil.
(*l*)	Notification of Infectious Disease ...	Nil.
(*m*)	Admittance of Inspector	Nil.

LEGAL PROCEEDINGS—

No legal proceedings were taken.

STEPS TAKEN TO SECURE COMPLIANCE WITH ACTS AND REGULATIONS—Nil.

CASES OF INFECTIOUS DISEASES—

No case of infectious Disease was met with, nor was any boat detained for cleansing and disinfection.

TOTAL NUMBER OF BOATS ON REGISTER—

The number of boats on the Register is 268.

(*a*)	Number believed to be in use or available ...	128
(*b*)	Number that cannot be traced	140

NUMBER OF BOATS REGISTERED IN 1919—

Five boats were re-registered during the year.

(Signed) WALTER LOWE.

Nuisance Inspector.

Nuisance Inspector's Department,

Town Hall, Widnes.

December 31st, 1919.